



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

Refer to NMFS ECO #: WCRO-2020-01204

July 13, 2020

Ms. Laura Shively
Senior Project Manager
California North Section
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Salter Residence Bank Protection Project

Electronic transmittal only

Dear Ms. Shively:

Thank you for your letter of July 8, 2019, requesting initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 *et seq.*) for the subject action. This consultation was conducted in accordance with the 2019 revised regulations that implement section 7 of the ESA (50 CFR 402, 84 FR 45016). Your request qualified for our expedited review and analysis, because it met our screening criteria and contained all required information on, and analysis of, your proposed action and its potential effects to listed species and designated critical habitat.

We reviewed the U.S. Army Corps of Engineers (Corps) consultation request and related initiation package. Where relevant, we have adopted the information and analyses you have provided and/or referenced, but only after our independent, science-based evaluation confirmed that they meet our regulatory and scientific standards. Specifically, we incorporate by reference here the following documents that have been provided by the Corps, the applicant, or the applicant's consultant, either in the initiation package that accompanied the original request for consultation, or in the subsequent correspondence with NMFS through electronic mail (email) during the course of the consultation process:

- the Salter Residence Bank Protection Project Biological Assessment (BA) submitted with the original Corps permit application, (George 2018)
- a letter dated October 17, 2019, from Mr. Philip George, the applicant's consultant, to the Corps entitled "Initial Response to NMFS letter of 7/31/19" (George 2019) with attachments, including



- the August 31, 2018, biological opinion (WCR-2017-8532) issued for the NOAA Restoration Center’s Program to Facilitate Implementation of Restoration Projects in the Central Valley of California (RC-BO) (NMFS 2018a)
- a document entitled “2020.01.07-Questions from NMFS-200702274”, sent in an email from the Corps to NMFS on January 15, 2020, (George 2020a)
 - including an attachment entitled “Heavy Construction Equipment Noise Study Using Dosimetry and Time-Motion Studies” (Spencer and Kovalchik, 2007))
- a letter dated March 3, 2020, from Mr. Philip George to the Corps entitled “Planting Plan per NMFS to approve in-water work,” (George 2020b) with attachments, including
 - a document entitled “20-0303 Letter Resubmittal of Planting Plan, Exhibit E” (George 2017)

All of the above referenced documents have been incorporated into the administrative record for this consultation on file at our California Central Valley Office in Sacramento, California, and can be made available upon request.

Consultation History

On July 15, 2019, NMFS received a letter dated July 8, 2019, from the Corps requesting formal consultation under the ESA in support of the issuance of a Department of the Army permit to the project applicant, Mr. Lee Salter, the owner of a private residence, where the proposed work is scheduled to occur.

On July 31, 2019, NMFS sent a letter to the Corps requesting additional information in order to initiate formal consultation under the ESA as described in the regulations governing interagency consultations (50 CFR §402.14(c)).

Conversations between the applicant, the Corps, and NMFS then continued over the course of the next several months, wherein the project description was further refined and clarifying details were provided to supplement the analysis presented in the BA. Ultimately, these conversations culminated in the accumulation of sufficient information to be able to initiate formal consultation on the proposed action pursuant to the ESA.

On March 3, 2020, NMFS received the final information needed to determine that the totality of the information received was sufficient to analyze the effects of the proposed action, and formal consultation under the ESA was initiated.

Proposed Federal Action

Under the ESA, “action” means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies (50 CFR 402.02). In this case the Corps is proposing to issue a Department of the Army permit to Mr. Lee Salter, the applicant and residential property owner, to carry out the Salter Residence Bank Protection Project (proposed action). The proposed action involves the placement of 175 cubic yards of rock slope protection

(i.e., rip rap) below the ordinary high water mark for a distance of 175 linear feet along the west bank of the Sacramento River south of Redding, California. The applicant proposes to prepare a foundation two-feet wide at the toe of the existing slope and perform minor grading to slope into the bank, which would involve the removal of a maximum of 5 cubic yards of material. After placement of the rip rap has been completed, the applicant would backfill with native soils or gravel to support the bank and to facilitate the placement of a retaining wall above low flows, which would be further backfilled with native soils or gravel. All work would be performed using a hydraulic excavator operated from the landside of the shore a minimum distance of 20 feet horizontally from the water's edge. Construction activities are expected to require a cumulative total of approximately 20 days to complete, and would occur over a six week period during the time of year when the river experiences its lowest flows, between January and April of a single year. Releases from Keswick Dam upstream of the action area during this time of year are at their lowest (between 3,500 and 6,000 cubic feet per second (cfs)) and the work area is anticipated to be roughly 3 to 5 feet above the water surface under those conditions, so it is expected that most work will be completed in the dry. There is no existing riparian vegetation that would need to be removed or cleared from the work area, and appropriate conservation measures and best management practices (silt fencing, straw wattles, plastic sheeting) will be employed to minimize the potential for erosion and environmental impacts to the action area as a result of construction activities. The proposed action would result in a permanent discharge of fill material into approximately 0.04 acre of the Sacramento River. For the purposes of this consultation, NMFS adopts by reference the complete project description as it is presented in the BA (George 2018) and further supported by the details provided in the supplemental documentation supplied to NMFS via correspondence between October 2019, and March 2020, as described above. We considered whether or not the proposed action would cause any other activities and determined that it would not.

ENDANGERED SPECIES ACT

This opinion analyzes the effects of the proposed action on endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley spring-run Chinook salmon (*O. tshawytscha*), threatened California Central Valley steelhead (*O. mykiss*), threatened Southern Distinct Population Segment (sDPS) of North American green sturgeon (*Acipenser medirostris*), and each of their respective designated critical habitats per section 7 of the ESA. We examined the status of each species that would be adversely affected by the proposed action to inform the description of the species' "reproduction, numbers, or distribution," as described in 50 CFR 402.02. We also examined the condition of critical habitats throughout the designated area and considered the function of the essential physical biological features (PBFs) that create the conservation value of those habitats. NMFS adopts by reference the descriptions in the Status of the Species and their designated critical habitats Sections that were provided in the RC-BO (NMFS 2018a), and referenced in the letter entitled "Initial Response to NMFS letter of 7/31/19."

"Action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For the purposes of this consultation, NMFS adopts by reference the description of the action area provided in the BA that was prepared by the applicant's consultant and supplied by the Corps as part of the original initiation package. The action area as described extends roughly 15 feet into the wetted channel

from the river's bank, and 500 feet downstream from the construction work site, encompassing a total area of 1.05 acres, including approximately 0.33 acres of the Sacramento River. The extent of the action area in the water is based on the approximate distance that elevated levels of suspended sediment would persist in the water column before they would begin to dissipate and revert to natural background conditions.

The "environmental baseline" refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultations, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02). NMFS adopts by reference the description of the environmental baseline provided in the RC-BO, which was referenced in, and attached to, the October 18, 2019, email response from the Corps in reply to NMFS' request for additional information. The RC-BO generally describes the Sacramento River basin in broad terms, but does present a more distinct and discrete description of the upper mainstem Sacramento River, defined as being upriver from the farthest downstream observation of winter-run Chinook salmon spawning. For the purposes of this consultation, the action area falls completely within the area described in the RC-BO as Management Unit 1 in the upper Sacramento River (NMFS 2018a). Currently, many of the PBFs identified in the respective designated critical habitats discussed are degraded and provide limited high-quality habitat. Factors that lessen the quality of migratory corridors in the region include unscreened or inadequately screened diversions, altered flows and corresponding water temperatures, the scarcity of complex in-river cover, and a lack of seasonally inundated floodplain habitat.

Under the ESA, "effects of the action" are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action, if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (see 50 CFR 402.17). In our analysis, which describes the effects of the proposed action, we considered 50 CFR 402.17(a) and (b).

The BA and supplemental material provided by the Corps and the applicant through correspondence over the course of the consultation as described earlier, offer a detailed discussion and comprehensive assessment of the effects of the proposed action, which NMFS adopts here by reference (50 CFR 402.14(h)(3)). NMFS has independently evaluated the analysis of effects provided by the Corps and the applicant and determined it meets our regulatory and scientific standards. In addition, NMFS has applied its own analytical tools to independently assess and verify the anticipated extent of effects likely to occur as a result of the proposed action. Through this process, the potential pathways of effects were identified and considered,

including temporary increases in both turbidity and sound disturbances from construction activity, and the temporary and permanent diminishment of the ecological function and value of the PBFs of designated critical habitat for the conservation of the species within the action area, as summarized below. The Corps proposes to authorize the placement of rock slope protection along 175 linear feet of the bank of the Sacramento River to stabilize and protect the shoreline from future erosion and eventual bank failure. The temporary and long-term effects of this proposed action are:

- Temporary minor impacts to fish from underwater sound and increased turbidity, including behavioral changes, caused by construction activities including the operation of heavy equipment immediately adjacent to the river and the placement of rock slope protection in the river and on its bank.
- Temporary and permanent reduction in riparian habitat quality. The temporary impacts to the designated critical habitat in the action area will reduce thermal refugia and prey availability, as well as increase exposure to predation, for migrating or rearing individual listed salmonids in the action area. This habitat is expected to largely recover within one to two years after the bank stabilization work has been completed and the replanted native riparian vegetation has been successfully reestablished. The incorporation of specific conservation measures into the proposed action as described in the BA and planting plan are expected to improve bank stability over the long term and lead to the re-establishment of native vegetation and natural bank conditions. This will help restore the ecological function and PBFs of this habitat over time, although there will be a temporal delay in the realization of those benefits, and the proposed action will result in the permanent conversion of a small portion of this habitat from aquatic to upland habitat.

Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, and North American green sturgeon will be adversely affected by the proposed action. The effects of construction will be temporary and will not impact more than a few individuals of the affected species during the six-week construction period. The temporary loss of habitat quality resulting from the proposed action is very small, when compared to the habitat available for the affected populations. At most, a few individual fish within each population will be temporarily displaced or disturbed, as a result of increased turbidity and construction related noise in the aquatic environment generated by the proposed action and the operation of heavy equipment on the adjacent upland habitat.

The designated critical habitat for each of the above listed species will also be affected by the proposed action. The effects will be limited to a relatively small portion of the available habitat adjacent to the action area. Approximately 0.33 acres of the designated critical habitat for the above listed species will be temporarily impacted for a period of approximately 8 weeks. Temporary effects in the action area during this time will likely include increased turbidity and higher concentrations of suspended sediment in the water column during the six week

construction period and for a brief period of time afterwards, lasting anywhere from several hours to a few days following, as the turbidity dissipates downriver and attenuates to background conditions. In addition to these temporary effects to designated critical habitat, the proposed action will result in the permanent loss of a total of 0.04 acres of designated critical habitat for each species, which will be permanently converted to nearshore terrestrial riparian habitat that could still occasionally be inundated on a seasonal basis, depending on the local and regional hydrologic conditions and river flows.

The critical habitat designations for Sacramento River winter-run Chinook salmon (58 FR 33212, 33216-33217; June 16, 1993), Central Valley spring-run Chinook salmon (70 FR 52488; September 2, 2005), California Central Valley steelhead (70 FR 52488; September 2, 2005), and sDPS green sturgeon (74 FR 52300; October 9, 2009), list the physical or biological features (PBFs) of those habitats, which are described in each of their respective recovery plans (NMFS 2014, 2018b).

The RC-BO (NMFS 2018a) provides additional detail in describing the environmental baseline and status of the designated critical habitat for the upper Sacramento River, and further identifies spatially explicit management units that sharpen the focus on regional distinctions and ecological function relevant to the various life stages of the species for which the habitat was designated critical. These management units correspond to a refinement of the suggested work windows for the subdivided habitat based on the timing of the respective species presence and utilization of those habitats. The corresponding management unit for the action area of the proposed action is listed in the RC-BO as Management Unit 1 (MU1) as shown in Table 1-1, on page 15 of the RC-BO (NMFS 2018a).

The general PBFs of the designated critical habitats in MU1 that will be affected by the proposed action include migratory corridors and rearing habitat for each of the listed species considered in this consultation. Due to the location and timing of the proposed action, however, no spawning habitat will be affected. Adverse effects to rearing and migratory corridor PBFs that are anticipated to occur as a result of the construction activities described include a temporary increase of suspended solids and turbidity in the water column, a temporary reduction in foraging habitat and prey availability in nearshore riparian waters, and a potential increase in exposure and vulnerability to predators in close proximity to the action area during and immediately following construction.

“Cumulative effects” are those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02 and 402.17(a)). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. NMFS adopts by reference the description of cumulative effects provided in the BA (George 2018) that was prepared by the applicant’s consultant and supplied by the Corps as part of the original initiation package.

The Integration and Synthesis section is the final step in our assessment of the risk posed to species and critical habitat, as a result of implementing the proposed action. In this section, we add the effects of the action to the environmental baseline and the cumulative effects, taking into account the status of the species and critical habitat, to formulate the agency's biological opinion as to whether the proposed action is likely to: (1) Reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing its numbers, reproduction, or distribution; or (2) appreciably diminish the value of designated or proposed critical habitat as a whole for the conservation of the species. The proposed action is scheduled to occur during a period of low flow in the river that corresponds with the recommended in-water work window for RC-BO MU1 (NMFS 2018a), in a reach of the river where there is historically no spawning habitat present. Despite being the major migratory corridor for all of the Sacramento River Basin populations of listed species considered in this biological opinion, the numbers of individuals from those populations present at the time of construction are expected to be very low, and impacts to those individuals are not likely to translate into population level effects.

Specifically, Sacramento River winter-run Chinook salmon adults and juveniles have the potential to be migrating through the action area during the in-water work window, as do juvenile green sturgeon. Adult winter-run Chinook salmon migrating through the action area are not expected to be present in large numbers during this time of the year, and those few that might be present would most likely be oriented towards the center of the channel, or thalweg, where the current is stronger and the effects of the action would be muted or sufficiently diminished to minimize their exposure to adverse effects. In contrast, however, adult Central Valley spring-run Chinook salmon, adult green sturgeon, and juvenile California Central Valley steelhead are not anticipated to be present at all, and only a very small number of juvenile spring-run Chinook salmon and adult steelhead have the potential to be present during the in-water work window. In addition, the action area represents a very small proportion of the adjacent habitat available for fish to disperse into, and the effects from the action are expected to dissipate rapidly within the context of the larger surrounding habitat as well. Therefore, construction effects to listed species are expected to be temporary and limited to behavioral responses and injury or death to a few individuals from each of the listed fish species migrating through approximately 0.33 acres of the action area for a period of no more than 8 weeks between January and April.

In addition, the proposed action will result in the temporary disturbance of up to 0.33 acres, and the permanent loss of no more than 0.04 acres, of designated critical habitat for each species in the action area. This will diminish the ecological function and value of the PBFs of designated critical habitat for the conservation of species in the action area (*i.e.*, migratory corridor and rearing habitat) over both the short and long term. The area is expected to largely recover much of that function and value following the stabilization of the bank and successful re-establishment of native vegetation. The disruption of the habitat and temporary degradation of the PBFs in the action area during construction and prior to the successful re-establishment of native vegetation is not expected to appreciably reduce the ability of listed fish to utilize the available habitat adjacent to and adjoining the action area for rearing and migration. Similarly, the permanent conversion of 0.04 acres of riparian aquatic habitat into near shore upland habitat is not expected

to result in a significant degradation of the overall value of the remaining designated critical habitat for the conservation of the species adjoining and adjacent to the action area.

After reviewing and analyzing the current status of the listed species and critical habitat, the environmental baseline within the action area, the effects of the proposed action, the effects of other activities caused by the proposed action, and cumulative effects, NMFS has concluded that the proposed action is not expected to reduce appreciably the likelihood of both the survival and recovery of the listed species in the wild by reducing their numbers, reproduction, or distribution; or appreciably diminish the value of designated critical habitat for the conservation of the species. It is therefore NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of Sacramento River winter-run Chinook salmon ESU, Central Valley spring-run Chinook salmon ESU, California Central Valley steelhead DPS, the southern DPS of North American green sturgeon, or destroy or adversely modify any of their designated critical habitats.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined by regulation to include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). "Incidental take" is defined by regulation as takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(b)(4) and section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA if that action is performed in compliance with the terms and conditions of this Incidental Take Statement (ITS).

Amount or Extent of Take

In the biological opinion, NMFS determined that incidental take is reasonably certain to result in the incidental take of individual adult and juvenile Sacramento River winter-run Chinook salmon, juvenile Central Valley spring-run Chinook salmon, adult California Central Valley steelhead, and juvenile sDPS green sturgeon. Incidental take associated with the proposed action is expected to be in the form of mortality, harm, or harassment of a very small number of individuals of the identified life stages of these species as they migrate through the action area for a period of approximately 8 weeks during and immediately following the proposed construction activities. NMFS does not anticipate the incidental take of any spawning fish, or the eggs, fry, or larval life stages of any of the listed species considered in this opinion.

It is not possible to quantify or track the amount or number of individual listed fish that are expected to be incidentally taken per species as a result of the proposed action, due to the variability associated with the response of listed species to the effects of the action, the varying population size of each species, annual variations in the timing of migration, uncertainties regarding individual habitat use within the action area, and difficulty in observing injured or dead fish. However, it is possible to estimate the extent of incidental take by designating ecological surrogates, and it is practical to quantify and monitor surrogates to determine the extent of incidental take that is occurring.

The most appropriate thresholds for the extent of incidental take that is expected to occur during construction are the following ecological surrogates: (1) the areal and temporal extent of nearshore riparian habitat affected by construction activities along the banks of the Sacramento River, and (2) the extent and duration of turbidity increases in the aquatic environment relative to environmental background conditions during construction. The analysis of the effects of the proposed action anticipates that construction activities will result in a temporary disturbance of up to 0.33 acres for a period of not more than 8 weeks during the period between January and April of a single year, and the permanent loss of up to 0.04 acres of nearshore riparian habitat.

If the amount of temporary and permanent disturbance exceeds 0.35 and 0.05 acres, respectively, or continues for a period of time longer than 10 weeks in duration, incidental take will be considered exceeded, triggering reinitiation.

Effect of the Take

In the biological opinion, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

“Reasonable and prudent measures” are nondiscretionary measures that are necessary or appropriate to minimize the impact of the amount or extent of incidental take (50 CFR 402.02).

The following reasonable and prudent measures (RPMs) are necessary and appropriate to minimize the impacts to Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, and sDPS green sturgeon:

1. The Corps and the permit applicant, including all employees contracted by the applicant to carry out the permitted work, shall minimize impacts to listed species and their designated critical habitats from project specific activities.
2. The Corps and the permit applicant, including all employees contracted by the applicant to carry out the permitted work, shall take measures to ensure the implementation of and adherence to best management practices and conservation measures.

3. The permit applicant shall monitor and prepare a report to the Corps and NMFS describing the amount or extent of incidental take that occurs in connection with the proposed action.

Terms and Conditions

The terms and conditions described below are non-discretionary, and the Corps or any applicant must comply with them in order to implement the RPMs (50 CFR 402.14). The Corps or any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this ITS (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

1. The following terms and conditions implement reasonable and prudent measure 1:
 - a. The permit applicant shall take all reasonable precautions to prevent heavy machinery from operating in the water, limiting construction activities to daylight hours, and coordinating construction activities to occur when the river stage is at its lowest, including staying apprised of current weather conditions and relevant forecasts for the local area during the in-water work window, in order to avoid pulse flows that might be utilized by migrating fish. The applicant shall cease all in-water work if more than 0.25 inches (6.35 millimeters) of rainfall is forecasted to occur within 72 hours of scheduled construction activities.
 - b. The permit applicant shall visually inspect the waterway each day before initiating construction activities to ensure no listed species are immediately present in the action area.
 - c. The Corps shall include the above terms and conditions in the permit to be issued.
2. The following terms and conditions implement reasonable and prudent measure 2:
 - a. The permit applicant shall prepare and submit a replanting plan to reestablish native riparian vegetation in the action area to the Corps and NMFS prior to the initiation of construction activities. The replanting plan shall also include a monitoring strategy with clearly identified success criteria established to determine the effectiveness of the replanting effort.
 - b. The permit applicant shall ensure that construction of the proposed action will occur during the identified in-water work window, and shall coordinate construction activities to the extent possible with the Corps and the U.S. Bureau of Reclamation, so that the proposed action is carried out at the earliest opportunity following the reduction in flows being released from Keswick Dam upstream of the action area.
 - c. The Corps shall include the above terms and conditions in the permit to be issued.

3. The following terms and conditions implement reasonable and prudent measure 3:
- a. Any Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, or sDPS green sturgeon found dead or injured within the action area during construction shall be reported within 48 hours to NMFS via fax or by phone:

Attention Cathy Marcinkevage, Acting Assistant Regional Administrator
 NMFS California Central Valley Office
 Fax: (916) 930-3629
 Phone: (916) 930-3600

A follow-up written notification shall also be submitted to NMFS, which includes the date, time, and location that the carcass or injured specimen was found, a color photograph, the cause of injury or death, if known, and the name and affiliation of the person who found the specimen. Written notification shall be submitted to:

Cathy Marcinkevage, Acting Assistant Regional Administrator
 California Central Valley Office
 National Marine Fisheries Service
 650 Capitol Mall, Suite 5-100
 Sacramento, California 95814

Any dead specimen(s) should be placed in a cooler with ice and either held for pick up by NMFS personnel or an individual designated by NMFS to do so, or sent to:

NMFS, Southwest Fisheries Science Center Fisheries Ecology Division
 110 Shaffer Road,
 Santa Cruz, California 95060.

Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02).

- (1) The Corps and the permit applicant/holder should support and promote aquatic and riparian habitat restoration in the Sacramento River basin for listed aquatic species. Practices that avoid or minimize negative impacts to listed species should be encouraged.
- (2) The Corps and the permit applicant/holder should continue to work cooperatively with other State and Federal agencies, private landowners, governments, and local watershed groups to identify opportunities for cooperative analysis and funding to support salmonid habitat restoration projects.

- a. The Corps should facilitate communication and coordination between the applicant and the U.S. Bureau of Reclamation to provide access to publicly available information relevant to the timing of construction and flow/release schedules that might impact proposed work schedules.
- (3) The Corps and the permit applicant/holder should use species recovery plans to help ensure that their actions will address the underlying processes that limit fish recovery, and to identify key actions in the action area when prioritizing project sites each year.

In order for NMFS to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, NMFS requests notification of the implementation of any conservation recommendations.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Corps or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) the amount or extent of incidental taking specified in the ITS is exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or if (4) a new species is listed or critical habitat designated that may be affected by the identified action.

MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was conducted pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. In this case, NMFS concluded the action would not adversely affect EFH. Thus, consultation under the MSA is not required for this action.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). This biological opinion will be available through NMFS' ECO [[WCRO-2020-01204](#)]. A complete record of this consultation is on file at the NMFS California Central Valley Office located in Sacramento, California.

Please direct any questions regarding this letter to Doug Hampton at the NMFS California Central Valley Office by email at douglas.hampton@noaa.gov, or by telephone at (916) 930-3610.

Sincerely,



Cathy Marcinkevage
Acting Assistant Regional Administrator

cc: Copy To the File No: 151422-WCR2019-SA00538

Electronic copy only:

Mr. Matthew Roberts, Matthew.J.Roberts@usace.army.mil

Mr. Lee Salter, LSalter@mcconnellfoundation.org

Mr. Phil George, Phil.grg@gmail.com

LITERATURE CITED

George, Philip E. 2017. Sacramento Riverbank Protection, Salter Residence, Bio Assessment, Planting Plan. Exhibit E. 2 pp.

George, Philip E. 2018. Biological Assessment: Sacramento Riverbank Protection Project at the Salter Residence in Redding, California. August 30, 2018. 38 pp.

George, Philip E. 2019. Letter from Philip George to the Corps of Engineers dated October 17, 2019. Re: Salter Bank Protection Project (SPK-2007-02274) Initial Response to NMFS Letter of July 31, 2019. 6 pp.

George, Philip E. 2020a. Letter from Philip George to the Corps of Engineers dated January 15, 2020. Re: Questions from NMFS provided on January 7, 2020. 3 pp.

George, Philip E. 2020b. Letter from Philip George to the Corps of Engineers dated March 3, 2020. Re: Salter Bank Protection Project (SPK-2007-02274) Planting Plan per NMFS to approve in-water work. 3 pp.

NMFS. 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead. California Central Valley Area Office. July 2014.

NMFS. 2018a. Biological Opinion: NOAA Restoration Center's Program to Facilitate Implementation of Restoration Projects in the Central Valley of California. August 31, 2018, WCR-2017-8532, 115 pp.

NMFS. 2018b. Recovery Plan for the Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*). National Marine Fisheries Service, Sacramento, California.

Spencer, E. R. and P. G. Kovalchik. 2007. Heavy Construction Equipment Noise Study Using Dosimetry and Time-Motion Studies. Noise Control Engineering Journal, 55(4):408-416.